

Amendments to the Drawings:

The attached replacement drawing sheets make changes to Figs. 4, 6, 8, 11, 12 and 14 and replace the original sheets with Figs. 4, 6, 8, 11, 12 and 14.

Attachment: Replacement Sheets (Figs. 4, 6, 11, 12 and 14)

REMARKS

I. STATUS OF THE CLAIMS

Claims 1, 2, 4, 5, 9, 10, 12 and 13 are pending in this application, the independent claims being claims 1 and 9. By this Amendment, claims 3, 6-8, 11 and 14-16 are canceled, and claims 1, 2, 4, 5, 9, 10, 12 and 13 are amended.

II. SUMMARY OF THE OFFICIAL ACTION

In the Official Action, the prior Restriction Requirement was made final, and claims 6-8 and 14-16 were withdrawn from consideration in the present application. The drawings were objected to on formal grounds. Claims 1-5 were rejected under 35 U.S.C. §101, as directed to non-statutory subject matter. Claims 1-5 and 9-13 were rejected under 35 U.S.C. §112, second paragraph, as indefinite. Claims 1, 5, 9 and 13 were rejected under 35 U.S.C. §103(b)(a), as unpatentable over Fig. 12 of the present application and the corresponding written disclosure ("Applicants' admitted prior art") in view of U.S. Patent No. 6,119,080 (Liu).

Reconsideration and withdrawal of the objections and rejections respectfully are requested in view of the above amendments and the following remarks.

III. ALLOWABLE SUBJECT MATTER

Applicants gratefully acknowledge the Examiner's indication that the application contains allowable subject matter, and that pending claims 2, 4, 10 and 12 appear allowable over the prior art. In this regard, Applicants' understanding is based on the fact that, although original claims 2 and 4 were rejected under §101 as non-statutory subject matter, and claims 2, 4, 10 and 12 were rejected under 35 U.S.C. §112, second paragraph, as indefinite, the subject matter of these claims appears to have been examined and these claims were not rejected over any cited art. For the reasons stated below, and without conceding the propriety

of the rejections, Applicants submit pending amended claims 2, 4, 10 and 12 are in allowable form and in condition for allowance.

IV. FORMAL AMENDMENTS TO APPLICATION

The specification has been reviewed and revised to attend to formal matters, including English spelling, grammar, idiom, syntax and the like. In particular, Applicants have amended the specification to delete reference to specific numbered claims, consistent with U.S. patent practice. No new matter has been added.

The objection to the drawings respectfully is traversed. Nevertheless, attached hereto are replacement sheets of drawings for Figs. 4, 6, 8, 11, 12 and 14. In each of these replacement sheets of drawings the non-English (Japanese) language illustrated in the original drawings has been deleted, as requested by the Examiner. No new matter has been added.

V. CLAIM AMENDMENTS

Applicants acknowledge the final Restriction Requirement, in which claims 6-8 and 14-16 have been withdrawn from consideration in the present application as directed to non-elected species. Claims 6-8 and 14-16 are canceled herein without prejudice to or disclaimer of the subject matter recited therein.

Without conceding the propriety of the rejections, and solely to advance prosecution of the present application to issue, claims 3 and 11 are canceled herein without prejudice to or disclaimer of the subject matter recited therein.

Applicants reserve all rights to the subject matter recited in the canceled claims, including the right to file one or more divisional applications directed to the subject matter recited therein.

Without conceding the propriety of the rejections, claims 1, 2, 4, 5, 9, 10, 12 and 13 have been amended more clearly to recite various novel features of the present invention, with particular attention to the Examiner's comments. Support for the amendments may be

found in the original application. In particular, independent claim 1 has been amended to recite features previously recited in original dependent claim 3; independent claim 9 has been amended to recite features previously recited in dependent claim 11. No new matter has been added.

In this regard, without conceding the propriety of the §101 rejection, independent claim 1 has been amended more clearly to recite a method for decoding a digital signal from a frequency domain to a time domain, including a step of determining side information including information regarding decoding of a data block, and switching a processing method for generating an output digital signal in a time domain on the basis of the side information. Applicants respectfully submit that such method satisfies the requirements under §101, for example, as a claim that includes a step that results in a limitation to a practical application. Favorable consideration respectfully is requested.

The rejection under 35 U.S.C. §112, second paragraph, respectfully is traversed. Nevertheless, without conceding the propriety of the rejection, all pending claims have been amended to improve their form, with particular attention to the Examiner's comments. No new matter has been added, and Applicants believe the formal rejections are moot.

VI. CLAIMED INVENTION

The present invention relates to a novel filtering method and apparatus for decoding a digital signal from a frequency domain to a time domain. In one aspect, as recited in independent claim 1, the claimed invention relates to a filtering method for decoding a digital signal from a frequency domain to a time domain. The filtering method comprises a first step of multiplying an input data stream of the digital signal and a transformation matrix that is decomposed into a sparse matrix from an inverse MDCT transformation matrix to make an inverse MDCT transformation of the input data stream composed of a plurality of data blocks, and having a smaller size than the inverse MDCT transformation matrix, to generate an

output data stream composed of a plurality of data blocks, a second step of storing predetermined data contained in each data block of the output data stream, and a third step of generating a digital signal in the time domain on the basis of each data block generated in the first step and the predetermined data stored in the second step in processing the data block in the first step, wherein the third step includes determining side information including information regarding decoding of the data block, and switching a processing method for generating the digital signal in the time domain on the basis of the side information.

In another aspect, as recited in independent claim 9, the claimed invention relates to a filtering apparatus for decoding a digital signal from a frequency domain to a time domain. The filtering apparatus comprises transformation means for multiplying an input data stream of the digital signal and a transformation matrix that is decomposed into a sparse matrix from an inverse MDCT (Modified Discrete Cosine Transform) transformation matrix to make an inverse MDCT transformation of the input data stream composed of a plurality of data blocks, and having a smaller size than the inverse MDCT transformation matrix, to generate an output data stream composed of a plurality of data blocks, memory means for storing predetermined data contained in each data block of the output data stream, and digital signal output means for generating and outputting the digital signal in a time domain on the basis of each data block contained in the output data stream and data of the predetermined data in each data block stored by memory means, wherein the digital signal output means determines side information including information regarding decoding of the data block, and switches a processing method for generating the digital signal in the time domain on the basis of the side information.

In each of these aspects, the claimed invention relates, in part, to the features of determining side information including information regarding decoding of a data block, and

switching a processing method for generating the output digital signal in the time domain on the basis of the side information.

VII. PRIOR ART DISTINGUISHED

The rejection of the claims over the cited art respectfully is traversed.

Applicants submit that the prior art fails to anticipate the claimed invention.

Moreover, Applicants submit that there are differences between the subject matter sought to be patented and the prior art, such that the subject matter taken as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made.

The present application illustrates in Fig. 12 and discloses in the corresponding written description ("Applicants Admitted Prior Art") a method for decoding a digital signal from a frequency domain to a time domain. However, without conceding the propriety of the Examiner's characterization of this disclosure, Applicants submit that this disclosure fails to teach or suggest at least the features of determining side information including information regarding decoding of a data block, and switching a processing method for generating an output digital signal in the time domain on the basis of the side information, as further disclosed in the detailed description of the preferred embodiments of the present application and recited in independent claims 1 and 9.

The Liu '080 patent relates to a unified recursive decomposition architecture for cosine modulated filter banks, and discloses a unified architecture for implementing a modified cosine transform of various cosine modulated filter banks in audio compression standards comprising a permutation module and a transform computing module. However, Applicants submit that the Liu '080 patent fails to disclose or suggest at least the above-described features of the claimed invention. Specifically, Applicants submit that the Liu '080 patent fails to disclose or suggest at least the features of determining side information including information regarding decoding of a data block, and switching a processing method

for generating an output digital signal in a time domain on the basis of the side information, as disclosed in the present application and recited in claims 1 and 9. Nor is the Liu '080 patent understood to add anything to Applicants' disclosure (Fig. 12 and the corresponding written disclosure) that would make obvious the claimed invention.

For the above reasons, Applicants submit that independent claims 1 and 9 are allowable over the prior art.

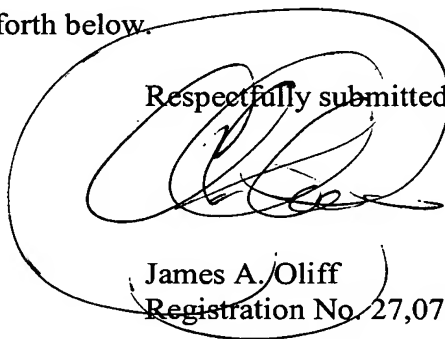
Claims 2, 4, 5, 10, 12 and 13 depend from claims 1 and 9, respectively, and are believed allowable for the same reasons. Moreover, each of these dependent claims recites additional features in combination with the features of its respective base claim, and is believed allowable in its own right. Individual consideration of the dependent claims respectfully is requested.

VIII. CONCLUSION

Applicants believe the present Amendment is responsive to each of the points raised by the Examiner in the Official Action, and submit that the application is in condition for allowance. Favorable consideration of the claims and passage to issue of the present application at the Examiner's earliest convenience earnestly are solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'James A. Oliff', is enclosed within a large, hand-drawn oval. The signature is fluid and cursive.

James A. Oliff
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Christopher Philip Wrist
Registration No. 32,078

JAO:CPW/eks

Attachment:

Replacement Sheets (Figs. 4, 6, 8, 11, 12 and 14)

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